

REMARKS/ARGUMENTS

This paper is in response to the Final Office Action of April 19, 2006. Applicants thank the Examiner for his careful review of this application. Applicants amend independent claims 1, 9 and 19 and dependent claim 6. Claims 14, 24, and 28-30 have been cancelled. The amended claims introduce no new matter and are fully supported by the specification. Accordingly, Applicants respectfully submit that claims 1, 4-12, 19, 21, and 22 are now in condition for allowance.

Anticipation Rejections under 35 U.S.C. § 102(e)

The Examiner rejected claim 9 under 35 U.S.C. § 102(e) as being anticipated by Brown et al. Patent No. 6,703,269. In light of the amendment and arguments contained herein, Applicants respectfully request that this rejection be withdrawn.

Although the Applicants believe that the original pending claims are sufficiently defined over the prior art of record, the Applicants have amended claim 9 to further distinguish the Applicants' claimed invention from Brown et al. in view of the Examiner's comments during a telephone conference with the Examiner on June 12, 2006. In contrast to independent claim 9, as amended herein, Brown et al. fails to teach or suggest "forming a passivation layer from byproducts generated from the etching of the dual doped gate structure" (See Applicants' Claims). Specifically, Brown et al. teaches forming a passivation layer during a "passivation step" (See Brown et al., column 6, lines 25-28 and 38-50) that is a SEPARATE and DISTINCT etch step used to form the passivation layer which is different from the formation of "a passivation layer from the byproducts generated from the etching of the dual doped gate structure" as recited in the Applicants' claimed invention.

For at least the above reasons, Applicants respectfully submit that Brown et al. fails to teach each and every claimed limitation of the Applicants' amended independent claim 9. Claims 10-12 depend directly or indirectly off of claim 9. Accordingly, Applicants respectfully request this rejection be withdrawn for claims 9 and 10-12.

Obviousness Rejections under 35 U.S.C. § 103(a)

The Examiner rejected claims 1 and 6 under 35 U.S.C. § 103(a) as being unpatentable over Chang et al. Patent No. 5,670,397 in view of Shishiguchi Patent No. 5,773,357 in the Final Office Action of April 19, 2006. Although the Applicants believe that the original pending claims are sufficiently defined over the prior art of record, the Applicants have amended claim 1 to further distinguish the Applicants' claimed invention from Chang et al. in view of the telephone conversation with the Examiner on June 12, 2006.

In contrast to independent claim 1, as amended herein, Chang et al. fails to teach or suggest **“ETCHING SUBSTANTIALLY ALL of the polysilicon film that is unprotected”** and **“introducing a silicon containing gas at a flow rate greater than 25 standard cubic centimeters per minute (sccm) and ETCHING A REMAINDER of the polysilicon film while introducing the silicon containing gas,** wherein the silicon containing gas is selected from the group consisting of SiH_3CH_3 , $\text{SiH}(\text{CH}_3)_3$, and Tetraethyl Orthosilicate (TEOS)” (See Applicants' Claims). Specifically, Chang et al. teaches a **SINGLE ETCH STEP** that is “highly selective for polysilicon over oxide”, unlike what is claimed in the Applicants' claimed invention. Shishiguchi fails to cure the deficiencies of Chang et al. as Shishiguchi is completely silent as to an

overetch of a “remainder of the polysilicon film” after an initial etch of “substantially all of the polysilicon film that is unprotected” (See Applicants’ Claims).

For at least the above reasons, Applicants respectfully submit that Chang et al. in view of Shishiguchi fails to teach all the claimed limitations in the Applicants’ amended independent claim 1. Claims 4-8 depend directly or indirectly off of claim 1. Accordingly, Applicants respectfully request this rejection be withdrawn for claims 1 and 4-8.

The Examiner further rejected claims 1, 6, 8, 10-12, 19, 28, and 30 under 35 U.S.C. § 103(a) as being unpatentable over Brown et al. in view of Shishiguchi. As a preliminary matter, per the telephone conference with the Examiner on June 12, 2006, the Examiner indicated that this rejection would be withdrawn for independent claim 19 as the Examiner agreed that Brown et al. fails to teach or suggest “depositing a layer of a silicon containing oxide over a gate oxide as the substrate is being etched” (See Applicants’ Claims). Specifically, as discussed above, Brown et al. teaches forming a passivation layer during a “passivation step” (See Brown et al., column 6, lines 25-28 and 38-50) that is a SEPARATE and DISTINCT etch step from the primary etch step. Shishiguchi fails to cure this deficiency in Brown et al. as Shishiguchi is entirely silent as to the “passivation step.”

Although the Applicants believe that the original pending claims are sufficiently defined over the prior art of record, the Applicants have amended independent claim 1 to further distinguish the claimed invention against Brown et al. and Shishiguchi. In contrast with independent claim 1 as amended herein, both Brown et al. and Shishiguchi fail to teach or suggest a “silicon containing gas is selected from the group consisting of SiH_3CH_3 , $\text{SiH}(\text{CH}_3)_3$, and Tetraethyl Orthosilicate (TEOS)” (See Applicants’ Claims). Specifically, both Brown et al. and

Shishiguchi are completely silent as to the silicon containing gases SiH_3CH_3 , $\text{SiH}(\text{CH}_3)_3$, and Tetraethyl Orthosilicate (TEOS).

Furthermore, for the reasons discussed above, Brown et al. fails to teach all the claimed limitations of independent claim 9 as amended herein. Shishiguchi fails to cure the deficiencies in Brown et al. as Shishiguchi is silent as to “forming a passivation layer from byproducts generated from the etching of the dual doped gate structure” (See Applicants’ Claims).

For at least the above reasons, Applicants respectfully submit that Brown et al. in view of Shishiguchi fails to teach all the claimed limitations in the Applicants’ independent claim 1, as amended herein. Claims 6 and 8 depend directly or indirectly off of claim 1. Further, for the reasons discussed above, the Examiner has withdrawn the rejection for independent claim 19. Still further, for the reasons discussed above, Brown et al. in view of Shishiguchi fails to teach or suggest each and every limitation of in Applicants’ independent claim 9, as amended herein. Claims 10-12 depend directly or indirectly off of claim 9. Accordingly, as claims 28 and 30 have been cancelled, Applicants respectfully request this rejection be withdrawn for claims 1, 6, 8, 10-12, and 19.

The Examiner further rejected claims 5 and 7 under 35 U.S.C. § 103(a) as being unpatentable over Brown et al. in view of Shishiguchi and further in view of Chow et al. Patent No. 6,872,322. As discussed above, Brown et al. and Shishiguchi fail to disclose or teach a “silicon containing gas...selected from the group consisting of SiH_3CH_3 , $\text{SiH}(\text{CH}_3)_3$, and Tetraethyl Orthosilicate (TEOS).” Chow et al. fails to cure the deficiencies of Brown et al. and Shishiguchi as Chow et al. is completely silent as to the silicon containing gases SiH_3CH_3 , $\text{SiH}(\text{CH}_3)_3$, and Tetraethyl Orthosilicate (TEOS).

For at least the above reasons, Applicants respectfully submit that Brown et al. in view of Shishiguchi and further in view of Chow et al. fails to teach all the claimed limitations of Applicants' claims 5 and 7. Accordingly, Applicants respectfully request this rejection be withdrawn for claims 5 and 7.

The Examiner still further rejected claims 19, 21-22, and 28 under 35 U.S.C. § 103(a) as being unpatentable over Becker et al. Patent No. 5,670,397 in view of Shishiguchi. As discussed above, Shishiguchi fails to disclose to teach a "silicon containing gas...selected from the group consisting of SiH_3CH_3 , $\text{SiH}(\text{CH}_3)_3$, and Tetraethyl Orthosilicate (TEOS)." Becker et al. fails to cure this deficiency as Becker et al. is completely silent as to the silicon containing gases SiH_3CH_3 , $\text{SiH}(\text{CH}_3)_3$, and Tetraethyl Orthosilicate (TEOS).

For at least the above reasons, Applicants respectfully submit that Becker et al. in view of Shishiguchi fails to teach all the claimed limitations of Applicants' independent claim 19. Claims 21-22 and 28 depend directly or indirectly off of claim 19. Accordingly, as claim 28 has been cancelled, Applicants respectfully request this rejection be withdrawn for claims 19 and 21-22.

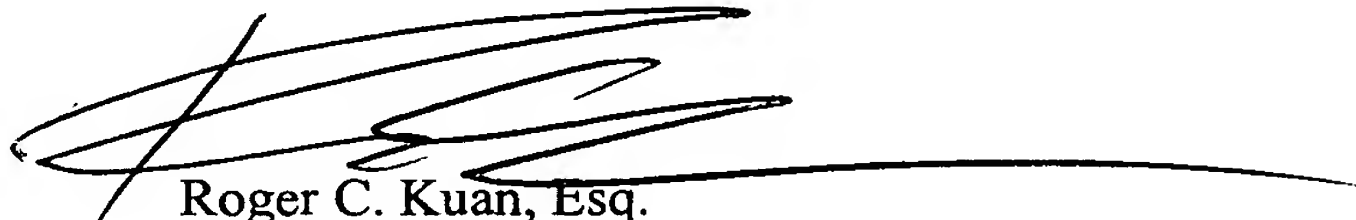
In view of the amendments and arguments above, the Applicants respectfully submit that claims 1, 2-12, 19, and 21-22 are now in condition for allowance.

SUMMARY

In view of the foregoing amendments and remarks, Applicants respectfully submits that the pending claims are in condition for allowance. Applicants respectfully requests reconsideration of the application and allowance of the pending claims. If the Examiner has any questions concerning the present Amendment, the Examiner is kindly requested to contact Roger C. Kuan at (408) 749-6927.

If any additional fees are due in connection with filing this Amendment, the Commissioner is also authorized to charge Deposit Account No. 50-0805 (Order No. LAM2P413). A duplicate copy of the transmittal is enclosed for this purpose.

Respectfully submitted,
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